Chapter 8. Noise

Noise is often defined simply as unwanted sound and thus is a subjective reaction to characteristics of a physical phenomenon. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold of 20 micropascals as a point of reference, defined as 0 decibels (dB). Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range.

The decibel scale allows a millionfold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness.

Noise in the community has often been cited as being a health problem, not in terms of actual physiological damage such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. When community noise interferes with human activities and contributes to stress, public annoyance with the noise source increases and the acceptability of the environment for people decreases.

To control noise from fixed sources, many communities have adopted noise-control ordinances. Such ordinances abate noise nuisances and control noise from existing sources. They may also be used as performance standards to judge potential nuisances or potential encroachment of sensitive uses on noise producing facilities. Community noise ordinances are generally designed to resolve noise problems on a short-term basis, usually by means of hourly noise-level criteria.

Existing Noise Conditions

The primary existing noise sources are traffic on I-80 and local roads. Fixed noise sources include the Meadow Vista Transfer Station and Chevreaux Quarry, as well as parks and schools that encourage recreational activities. Noise sensitive land uses include residential uses, schools, and churches.

IMPACTS

Criteria for Determining Significance

The State CEQA Guidelines, Appendix G, state that a project will normally have a significant effect on the environment if it will:

- substantially increase the ambient noise levels for adjoining areas.

Professional interpretation of this definition that a project will normally have a significant effect on the environment if it will:

- expose people to severe noise levels
- generate noise that would conflict with local noise standards or ordinances.

An increase in noise of 3 dB or less is typically not noticeable. An increase in noise of 5 dB is distinctly audible and is generally used as the threshold for a significant noise increase. A 10-dB increase is typically perceived as a doubling of loudness. Consideration is given to the perceptibility of changes in noise levels in assessing significance at existing sensitive receptors using a change of 5 dB as the threshold for a significant increase.

Impact Analysis

The proposed project has the potential to generate noise from equipment used in the vegetative management process. This equipment includes chain saws, chippers, and other heavy equipment. Table 8-1 shows typical construction equipment noise levels as could be used in vegetation management.

Actual noise levels experienced at residences would involve several pieces of many kinds of equipment. Since noise from localized sources typically falls off by about 6 dB with each doubling of distance from source to receptor, outdoor receptors within 1,600 feet of construction sites, and which have an uninterrupted view of the construction site would experience noise greater than 60 dBA when noise on the construction site exceeds 90 dBA. Since at this time, the number, type and location of each kind of equipment being used is not known, it is not possible to accurately predict the noise level at the residences. Noise insulation provided by the walls, windows and doors of the buildings would partially abate construction noise. A 20

dBA reduction is typical of most residential structures, provided the windows are closed. Desirable outdoor levels of 60 dBA for residential uses and 45 dBA indoors could be exceeded during the course of vegetation management. This is considered a significant effect.

Table 8-1
Construction Equipment Noise Levels

Equipment Type	Noise Level at 50 Feet
Backhoe	85 dB
Tractor	80 dB
Trucks	91 dB
Chipper	85 dB
Chain Saw	76 dB

Source: "Noise from Construction Equipment and Operations, Building Equipment and Home Appliances," prepared by Bolt, Beranek and Newman for the U.S. EPA, December 31, 1971; Chipper and chain saw measurements by Placer County Resource Conservation District, 1997.

MITIGATION

1. Restrict operation of chainsaws and other power-driven equipment to the hours between 7:00 a.m. and 9:00 p.m.. The operation of all other power equipment, except highway vehicles, within 200 feet of an occupied dwelling shall be restricted to the hours between 7:00 a.m. and 9:00 p.m., and shall be prohibited on Sundays and nationally designated legal holidays.

Level of Significance Following Mitigation

Implementation of the recommended mitigation measure would reduce potential noise impacts to a less than significant level.